

REMARKS

Claims 1-6, 8-19, 22 and 24-39 are pending in this application. Claims 1, 3-6, 15-17, 22, 24, 25, 29-34, 36, 38 and 39 have been amended by this Amendment.

The Office Action dated June 15, 2004 requested that applicants resubmit the Information Disclosure Statement filed on October 3, 2002. The Office Action objected to the drawings, the title, and the claims. The Office Action also rejected the claims as being indefinite under 35 U.S.C. 112, second paragraph.

The Office Action rejected claims 1, 2, 5, 14, 15, 24-27, 38 and 39 as being obvious over Deakin in view of Forslow; rejected claims 3, 4, 8, 10-12, 33-35 and 37 as being obvious over Deakin in view of Forslow and further in view of Cobo; rejected claims 6, 9, 22, 29, 31, 32 and 36 as being obvious over Deakin and Forslow, as applied to claims 1, 24 and 33, and further in view of Cobo and "well established teaching" in the art; rejected claim 18 as being obvious over Deakin and Forslow, and further in view of "well established teaching" in the art; and rejected claims 28 and 30 as being obvious over Deakin and Forslow, and further in view of Kreppel. Applicants gratefully acknowledge the indication that claims 13, 16 and 17 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the indefiniteness rejection.

Resubmission of Information Disclosure Statement

The Office Action states that the Information Disclosure Statement (IDS) filed on October 6, 2002 was not received. However, the IDS is noted in the file history of the application. It is thus apparent that the IDS was received by the Office, although it was not received by the Examiner. As requested, applicants have resubmitted a copy of the IDS together with this Amendment.

Objections to Drawings

The objections to the drawings are set forth in parts 2 and 3 of the Office Action. Specifically, the objections state that Fig. 1 should be designated by a label such as "Prior Art", and that the drawings must show the third and fourth network elements recited in claim 16 or these features must be cancelled from the claims. Applicants have resubmitted a replacement sheet that labels Fig. 1 as Prior Art. The third and fourth network elements recited in claim 16 are shown in Fig. 2 of this application.

Objection to the Title

The grounds for the objection to the title is set forth in part 4 of the Office Action. Specifically, the objection suggests that the title be changed to “Common Charging Identifier for GPRS Communication Networks”. Applicants respectfully decline to change the title as suggested because it adds the term “GPRS” and the invention is not limited to GPRS networks.

Claim Objections

The objections to the claims are set forth in parts 5 and 6 of the Office Action. The objections point out informalities in claims 4 and 24. The informalities in claims 4 and 24 have been corrected by this Amendment.

Indefiniteness Rejection

The grounds for the rejection of the claims as being indefinite under 35 USC 112, second paragraph, is set forth in part 7 of the Office Action. With respect to independent claims 1, 24, 33, 38 and 39, the rejection states that it is unclear whether the mobile station initiates two simultaneous connections at each layer, and that “the request for a connection is encapsulated from application layer, transport layer and physical layer overheads before it is headed to the next node”. The rejection appears to assume that the transport layer and application layer recited in the claims are layers that exist solely within a network element. However, the application layer and transport layer do not exist solely within a network element and include multiple network elements. In the exemplary, non-limiting, embodiments described in the application, the application layer consists of the IP telephony network and the transport layer consists of the GSM/GPRS network (see, for example, page 12, lines 5-6, and page 16, lines 10-14). In order to avoid confusion, the claims have thus been amended to recite a transport layer network and an application layer network. These amendments do not involve new matter as there is support for such language in the originally filed specification (see, for example, page 21, lines 4-8).

The rejection also points out that claims 3 and 4 refer to “a network element” even though first and second network elements have already been recited. Applicants have thus amended claims 3 and 4 to refer to the first network element.

Obviousness Rejection – Deakin and Forslow

The grounds for the rejection of claims 1, 2, 5, 14, 15, 24-27, 38 and 39 as being obvious over U.S. Patent No. 6,463,275 to Deakin in view of U.S. Patent No. 6,608,832 to Forslow is set forth in part 8 of the Office Action. Claims 18, 28 and 30 are dependent claims and are also rejected based on the combination of Deakin and Forslow in parts 11 and 12 of the Office Action. Applicants respectfully traverse the obviousness rejection on the grounds that one of ordinary skill in the art would not combine the two applied references to arrive at the claimed invention in the manner proposed in the rejection, and that, even if the references were combined, it would not result in the claimed invention.

For example, amended claim 1 is an independent claim directed to a method for coordinating charging information for both an application layer network and a transport layer network. A mobile station initiates connections, and a first network element generates a charging identification and sends it to a second network element. The charging identification is included in the call records of the first and second network elements and is used to coordinate charging information. The first network element is included in one of the transport layer network and the application layer network, and the second network element is included in the other one of the transport layer network. Independent claim 24 is similar to claim 1 but is directed to a system instead of a method. Independent claims 38 and 39 are also similar, but are directed to network elements.

Deakin is directed to a method of billing in a GSM/GPRS network that facilitates various types of billing, such as hot billing (real-time billing) and pre-paid billing, in addition to normal billing. Deakin proposes that a subscriber specific Billing Class Identifier (BCI) be implemented as a new parameter in the Home Location Register (HLR) and used by a charging gateway to direct billing information to the respective billing system (see, for example, Fig. 2 and col. 2, lines 27-43, and col. 3, lines 24-37). Deakin contains only a GSM/GPRS network, which corresponds a transport layer network, and does not include an IP telephony network or other type of application layer network. The network element NE2 passes CDRs with BCI to a charging gateway, which directs CDRs based on the BCI to respective billing systems of Deakin. The charging gateway thus use billing class identifier to determine whether the billing information is sent to billing system A, B or C. Although the network may be connected to an external packet data network (PDN), there is no billing coordination between the PDN and the GSM/GPRS network.

The rejection acknowledges that Deakin does not include many of the features recited in the independent claims, and relies upon Forslow as teaching the remaining features. Forslow is directed to a GSM/GPRS network that includes an IP Backbone network 52 and an IP Data Network 56. Assuming *arguendo* that Forslow includes an application layer network, Forslow may be considered to describe a method of making connections from a mobile station through a transport layer network and an application layer network. More specifically, Forslow is concerned with providing an appropriate quality of service for different types of application flows and suggests a method of using multiple PDP contexts to provide a desired quality of service for the application flows associated with various connections (see generally col. 5, line 10, to col. 6, line 15). However, Forslow does not suggest a billing method for the various connections. This appears to be acknowledged by the rejection as it refers only to the connection response/request messages, and not to any billing method in Forslow.

The rejection asserts that one would combine the references “for the purpose of providing the mechanism of processing connection messages in application and transport layer in the GPRS network” since Forslow states that it would “provide quality of service based, radio Internet access in order to support multiple application services including voice, data and multimedia.” The purported motivation for the combination is that col. 5, lines 22-35, of Forslow suggests that “by processing at each layer and establishing the connection messages for the connection, it can increase the quality of service for each type of connection in the network.”

However, the Deakin and Forslow are independent of each other and would not be combined except with the aid of hindsight based on this application. Deakin is concerned with providing specialized billing services, such as pre-paid and real-time billing, in addition to normal billing. On the other hand, Forslow is concerned with providing an appropriate quality of service on an individual application flow basis for circuit-switched and packet-switched communications, and is not concerned with billing systems and methods. This is suggested in Forslow as an improvement over limiting quality of service on a PDP context basis. (see col. 5, line 10, to col 7, line 52). Since Deakin does not contain the disadvantages of poor quality of service that Forslow seeks to address, one would not attempt to modify Deakin according to Forslow. Indeed, since Deakin is concerned with billing, and Forslow is

not concerned with billing, one would not see any reason to attempt to combine the two references.

Secondly, even if one did for some reason attempt to combine the references, the resulting combination would not include all of the features of the claims. The billing method in Deakin occurs entirely within a GSM/GPRS transport layer network, and there is no application layer network. If one did modify Deakin to include an application layer network and the quality of service improvements of Forslow, there is still no suggestion of the recited features that charging information should be sent between the transport layer network and the application layer network, included in the call records of both networks or that charging information generated in transport and application layer networks should be coordinated using the charging identifier.

Obviousness Rejection – Deakin, Forslow & Cobo

The grounds for the rejection of claims 3, 4, 8, 10-12, 33-35, and 37 as being obvious over U.S. Patent No. 6,463,275 to Deakin in view of U.S. Patent No. 6,608,832 to Forslow, and further in view of U.S. Patent No. 6,496,690 to Cobo is set forth in part 9 of the Office Action. Claims 6, 9, 22, 29, 31, 32 and 36 are also rejected based on Deakin, Forslow and Cobo in part 10 of the Office Action. Applicants respectfully traverse the obviousness rejections on the grounds that one of ordinary skill in the art would not combine the three applied references to arrive at the claimed invention as proposed in the rejection.

Independent claim 33 recites that the mobile station receives charging identification from a first network element in one of the transport layer network or application layer network, and sends the charging identification to a second network element in the other one of the transport layer network and application layer network. Claims 3, 4, 8, 10-12 and 35 further recite that the address of the first network element or security information is sent together with said charging identification to the second network element. In addition to the reasons set forth above with respect to Deakin and Forslow, applicants respectfully submit that Cobo does not suggest a modification that includes the features of the rejected claims.

The rejection relies upon the Create PDP context request and response messages shown in Fig. 4 and discussed at col. 7, lines 44-67, of Cobo. However, the prepaid subscriber class (PPSC) is passed between the SGSN 12 and GGSN 25 in Cobo. There is no indication that the mobile terminal in Cobo receives charging information, or that the mobile

terminal sends the charging information to another network element. There is also no indication that the address of security information is sent by the mobile in Cobo.

Conclusion

Applicants traverse the rejections for at least the reasons given above and respectfully request a Notice of Allowance. Please charge any fees due in connection with the filing of this Preliminary Amendment, to Deposit Account No. 02-4270 (Dkt. No. 6173-30US) and please credit any overpayment or excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert M. Bauer". The signature is fluid and cursive, with the first name "Robert" and last name "Bauer" clearly distinguishable.

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